SEQUENCE LISTING

<110> MultiGene Biotech GmbH

<120> Novel retina-specific human proteins C7orf9, C12orf7, MPP4 and F379

<130> M36888US

<150> 60/253,751

<151> 2000-11-29

<160> 45

<170> PatentIn version 3.1

<210> 1

<211> 2435

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 209; stop at 2435

<400> 1

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cctccaggaa tttaaagaaa agaaactagt tcctgccaca ccacatgcac aggtgttatc 480

ctatgaggta gtggagttat tacgtgaaac ccctacttcc cctgagatcc aagagctgag 540

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tctttttaag atttaaataa agagctttcc taaat 2435

<210> 2

<211> 320

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 1 to 108

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ggcaaataat cctcagttac cagaagatgt atccataact gcctagcttg cctgtcagtt 180

tttaatagct aaagatataa atctgggtaa tctaactcaa atggcttagt ttcattttaa 240

ctcaaatgat atggggaatt ttatgatctt gaaagagcag gttttgcttc gagaagccat 300

ttcttcagta tggaataatg 320

<210> 3

<211> 512

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 173 to 352

<400> 3

aaacatggag ttaggggggag cattttatgc aatagtcgtt ttctctttca cgccactggt 60

gatggttaag agtaggcacc acaggggaag actgtgtttc atttgatgtg tatcccagtg 120

tgtagcacag ggcctggctt gctgaggaaa tgctattgaa aatatattcc agtgtgctga 180

gagctggtgg ccagtgggac tgagtgagct gtgtgccgtg tattgacccg cttcctagtc 240

ctgaattcct ttcagaagct ccggcaggga ggatgataca gtcagacaaa ggagcagatc 300

caccagacaa gaaggacatg aagctttcta cagccaccaa tccacagaat ggtatgtgtc 360

accaggactc cttttctaga ccagaaagta atatcacctc tgacatgtga tcaaatgaat 420

aggcagaaat cctgacagac ttactgtgat ccctatgagg atcttgtaca tttttggttg 480

cactactgcc ctaccagtga taactttaag aa 512

<210> 4

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 165 to 286

<400> 4

acaaagtaag aggtggaaca gggcttgaag tcagatcttt tggcctgaga tccagtgtca 60

tttccactcc tggtgagacc ccatggcatg ccccagctat ctgagttgcc tttcacattt 120

acacccgcac ctgccacccc atctctgctc tcttcctttc ctaggcctct cccagatcct 180

gaggcttgtg ctgcaagagc tgagtctgtt ctacagcaga gatgtgaatg gagtgtgtct 240

cttgtacgat ctcctccact cgccgtggct tcaggctctg ctaaaggtga gtgcttcttt 300

gctcggaagc ctttgcttgc tgaaggggtt gtggggagtg tgtagaaaat gacagcttca 360

gtccattcag gctggatagt ggaatagttt ataaacaaca gaaattgata tctcacagtt 420

ctgtaggcca ggaagtccaa aatccagt 448

<210> 5

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 206 to 283

<400> 5

taagcttttg aagcatcggg gccaccaaac tcaagttcat ttctctttgg caactagaga 60

cacaacttac taaacaccaa ccacaccgtg ctgtgcagcc attggtgcag ttgcctgggg 120

tgtttcttct ctttgagagt cttaaatcca aaatggcaat agtcatatta tcaatatcaa 180

ttctccctcc cttgtccttc tgcagattta tgactgcctc caggaattta aagaaaagaa 240

actagttcct gccacaccac atgcacaggt gttatcctat gaggtaagga gattttattc 300

cacaggatag tagagctctg atgtggtgcc attttcccca cattgctagt tcaaatgaat 360

taaaggttct aaggaaaagt tttattgatg actatgcatc taataaatgt ttctaattga 420

actttaatat aaggaagaac attggctg 448

<210> 6

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 165 to 245

<400> 6

ggtaggcttt aatggatggc tttatagatg aaaaagaagg ctccagtaat agctttttaa 60

aggtcaatat catgttagta tgtatgttat ccagcctggg tgaggttaag taggtgataa 120

agatttttta aaatttttat aatgtatcct tttccatgaa ccaggtagtg gagttattac 180

gtgaaacccc tacttcccct gagatccaag agctgagaca aatgctccag gctccacact 240

tcaaggcaag tgcctgctaa aatagaaaag atgtccccat ctggcacata gacaaagttg 300

ggaaggagaa atatatgtga tggaaaatgt tctctctgaa tagatgttct attactgtac 360

acggttactg accaacagat tgta 384

<210> 7

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 133 to 264

<400> 7

cgcactgtgt ctggcatgtc tgtattggtg tttgttgttg ttgctgtgtc ttagatagta 60

ttgagttact atcttctaga ggggtttggc ccatgtgtga catttgctca ccttttcctt 120

ccctgtgccc aggccttgct cagtgcccat gacacgatag ctcagaaaga ttttgaaccc 180

cttctccctc cactgccaga caatatccct gagagtgagg aagcaatgag gattgtttgt 240

ttagtgaaaa accaacagcc cctggtaagg aaatcatttt ttatctttcc atttagggta 300

agcttaggtt aattgtgaac caaattatat ctagtggtta cttgggcagt agccttgcct 360

gcgatcacat atacagtgat aataacggct gtcaactctg caagttttgc ctgtggtttc 420

aaacatatta catgtcacgg tgttttct 448

<210> 8

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 166 to 247

<400> 8

cattgattga aagaccagag ctgcattgat tgaaagacca gagctgcatt gattgaaaga 60

ccagagctgc attgattgaa agaccagagc tgcattgatt gagggaagcc acctggaaaa 120

tggtcatgtc aggtaacaga gggatctcgt ctattctctc ttcagggagc caccatcaag 180

cgccacgaga tgacagggga catcttggtg gccaggatca tccacggtgg gctggcggag 240

agaagtggta agctggagca gctgggattg agagttacca gaaaaacagg aaacccttga 300

ctgtttaggc ttctttctag agaaatccct ttttttcttt ttttttttttc ttttttttt 360

tttgagatgg agtcttgctc tgtcgcccag gctggagtgc agtggcgtga tctcggctca 420

ctgcaagctc cacctctggg gtttgcca 448

<210> 9

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 162 to 247

<400> 9

atgtaagttg gaataaccag ctttcttttc tattattatt ttatattaaa cattttaga 60

gcatgcttgg gttagtgagt taaatagcta tcgaggtagc tactgctatt tttatcctac 120

ttctttgtat ctttctttgt tttttgttac tgtctgccta gggttgctat atgctggaga 180

caaactggta gaagtgaatg gagtttcagt tgagggactg gaccctgaac aagtgatcca 240

tattctggta aatcttcttt ttgccttttt gttaatgact tggagaaatg ccaaggctga 300

actgggacca tcaagcccac gtgtgtgcac tgggatgtac cggggactca agttctcttg 360

gcagctttct ccctccaggc tcccagacct tgtctgtcac ccatgtcact tgctgacctc 420

cctcctctac cccgagaagt tctggtcc 448

<210> 10

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 158 to 229

<400> 10

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tgagacctgg atacattgca ctgtaactct gtccaccgag ccccagtaac cctgctagct 120

ccatgattgt catcctttct cctctcttat tttccaggcc atgtctcgag gcacaatcat 180

gttcaaggtg gttccagtct ctgaccctcc tgtgaatagc cagcagatgg taagaattta 240

ctgagccttc aatctcacac acagtaaatc cccaagtaac agcaactaaa tatgatgcgt 300

aataatccta tcctttgtac tgtgttggac ctggattcaa gactgtgttg gatatttttc 360

aatactgatg gcccgagaag caaa 384

<210> 11

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 138 to 334

<400> 11

gggtggagag gaaagatagg agtagcaggt ggaggagtgg gagaaatggt tttaagtcat 60

gatggcccat gggcaagggt tcttcggatg gcaccattag gcaccttctg atagcgtcat 120

tatgcacctg ccatcaggtg tacgtccgtg ccatgactga gtactggccc caggaggatc 180

ccgacatccc ctgcatggac gctggattgc ctttccagaa gggggacatc ctccagattg 240

tggaccagaa tgatgccctc tggtggcagg cccgaaaaat ctcagaccct gctacctgcg 300

ctgggcttgt cccttctaac caccttctga agaggtaagg aacgtcacca ctcctggact 360

cagggctgaa ccatcaggaa acaaaatgtt tttcttgggt ttctgttacc tcaagatgag 420

ataaagaggg acaagcagat gaatgaac 448

<210> 12

<211> 320

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 152 to 216

<400> 12

atttggagaa gcaatcaccc ttttcacttg agtgaaggca gcagaattct aagaaacatt 60

ctgtttgtcg ttgctctggg tctgtttcat ctaggttaac aaagagtggt ttttgtttgt 120

tttttgtcgc atggtttttt ccccccccata ggaagcaacg ggaattctgg tggtctcagc 180

cgtaccagcc tcacacctgc ctcaagtcaa ccctatgtga gtattgcaac tgcccgacag 240

gttcttcctg tttgcaataa agaccatggc attgcagtaa ataaagagtc taattgatgt 300

gaggctggcc atgccacatg 320

<210> 13

<211> 320

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 161 to 178

<400> 13

cttactaaat cttccctgaa tttctagaga ataaacccag aatactaatt acaataattt 60

ttgcacatta catttcttat tgtaaattaa tctgagaaaa tatagtacag atactgtgtt 120

ctttttatcc cccctgcttc aatcatttgc ttgtactcag caatttctat ggaagaaggt 180

aagaaatagt atttaggaaa aaactcttat ctccaaagtc ttttagaaat ttcttgtagt 240

ttaaagaatt cactttaatt cagttcagct atttattaag ctcttcctat atacctagta 300

gtgtgatagt cattattaag 320

<210> 14

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 179 to 217

<400> 14

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cctcggcctc ccagagtgct gggatcacag gcatgagcca ccatgcctgg ccgggaattt 120

tctttttaat gcagacacat tttaaattct gtttctccct ttctatactc ttttatagaa 180

gatgacatga agattgatga gaaatgtgtg gaagcaggta acattttctc ttgattgctt 240

tgctgttaga agaaatatga agcatgtcaa ttatagatta tctgaagcag aggtgtccaa 300

aggggccatg ggcctttcct ctagaaatgt gtaaaatgac cctccacccc catctatctt 360

ctgtagttct ggcacttgga agga 384

<210> 15

<211> 320

<212> DNA

<213> Homo sapiens

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<221> misc_feature

<223> genomic DNA, Exon from 110 to 130

<400> 15

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atggtcatgt aataacattt ttgatttttg cctccatgaa aaatcataga tgaagaaaca 120

tttgaatctg gtaagtaaaa aatgagtatt tggtactgat ttttaaatgt atattctaaa 180

ttttgatgca atttatacac atatttataa taactgttta aatatatcaa cattaaaaaa 240

ttaaaaagta actgcgtgta tcccacatca tgttgtcaac ctcaaatata cattataaaa 300

tttatttta attttaattt 320

<210> 16

<211> 320

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 174 to 188

<400> 16

cagtcccaat catgtggtga tcatttgcct tgccaggcct tacccgagtt acctttgct 60

agtggtgacg tgcacgtctt gcttatgtca tttgccttga tttgatggct aacatgatct 120

tcttaaaggc ttaacttttt catgtctgtt tctgcactta cccaaatatc cagaggaact 180

ttcagaaggt aattgttttt atttcctaga tataccaaat agaactatgt ttaagatctt 240

tcagtgcctc aaaaatgaat acttgactgg ataatgttta agatgaagat acggaatttg 300

ttgttgttta tggttttccc 320

<210> 17

<211> 320

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 170 to 211

<400> 17

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gccgtctact aaggtggtca cttgaaaagt tgaaaatgat ttcatgaatt tattctgaat 120

aaacttctcg ctctcacata ttctgctcca tctgttcttt gtgtttcaga caaggaggag 180

tttgttggct acggtcagaa gttctttata ggtaggtgat aaattaacaa gaggtgggtc 240

tctgtcactt gttaaattat gtttccaaac ctgacactgt tttgaaagtt tcttttgcta 300

atgaacattt ccagacctgt 320

<210> 18

<211> 512

<212> DNA

<213> Homo sapiens

<400> 18

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tatttttccc tcatattact tcccatcttc taacttcaga cagacctgac tatattaatg 120

aacactttag gatcatggtt gctacatatt tcatcaggtg tgaagctaca agtgatctct 180

cctgcctggt tcttacgttc tgtgcacttc ccctccctag ctggcttccg ccgcagcatg 240

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agctgctaca gtgcagtggg tgccccttac gaggaggtgg tgaggtacca gcgacgccct 360

tcagacaagt accgcctcat agtgctcatg ggtatgtccc agcatgcact gtctctcctc 420

ctccttgaga agtcttcctt ctagattcag gtgtcttgca ttgggaataa tggtgaaagt 480

agaactcttt atggaccccc atacaaatac ct 512

<210> 19

<211> 384

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 160 to 240

<400> 19

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tctcaagttt cttcagtaga aggactaaaa tgataattcc atcacataat tatatttatc 120

cacatctgat gatttctgtg tgtgactttt tgtgtttagg accctctggt gttggagtaa 180

atgagctcag aagacaactt attgaattta atcccagcca ttttcaaagt gctgtgccac 240

gtatgtttag ttctgctttc ataatggttt gtgttttggt aaaactttct ttgctgatct 300

catttaacta tgtcattcca tctttgttgt aaaagtatac aacaccaggg atagttctta 360

agtatttcta accatattta tttt 384

<210> 20

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 200 to 293

<400> 20

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cttctttta gttctagcat tttatctcct tgattatata ttcatttatt tattttgatt 120

agatatcttt attcaaatgc atattggtaa tcaaagaatt ctgaagacac tgaaaccttt 180

cattcccttt ttctgataga cactactcgt actaaaaaga gttacgaaat gaatgggcgt 240

gagtatcact atgtgtccaa ggaaacattt gaaaacctca tatatagtca caggtaaagt 300

agaggttcag aagctgattc ttacctcttg ttgttttaca tttgaaatag attccctatt 360

tttatgtatt ttccaaatct cctgggtaat tccttttgtt tctgaggagt taagcaagaa 420

atgtacatcg atatacagca caccaact 448

<210> 21

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 133 to 241

<400> 21

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ttatcctcat gttactacta ataatatttt ccttgtagaa agtgttctgt tttgtttggc 120

ctgctcttgc aggatgctgg agtatggtga gtacaaaggc cacctgtatg gcactagtgt 180

ggatgctgtt caaacagtcc ttgtcgaagg aaagatctgt gtcatggacc tagagcctca 240

ggtgggtcca tggtggaata tttatgtccc caaacaatga atgcgtatca tccatttttt 300

gtgcacatgc tgtaggttat agttgagaca tttattctgt tagcctttta agaataaggc 360

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ggaaagaagt cttgcttctc agacagaa 448

<210> 22

<211> 448

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 164 to 298

<400> 22

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aactgtgatt gcaccacagc actccagcct gggtgacaga gcaagaccat gtctcaaaac 120

aaaacaaaca aaaaataaat gtgcatttaa attttctgtg taggatattc aaggggttcg 180

aacccatgaa ctgaagccct atgtcatatt tataaagcca tcgaatatga ggtgtatgaa 240

acaatctcgg aaaaatgcca aggttattac tgactactat gtggacatga agttcaaggt 300

aagagcaagt caaaaactac tgtattgctt tcagtggctt ctgcgtggga gagatctggg 360

ttgggctggg ccaaggatct ctgatctcat tgtcctcctc ctccttttg acccctctc 420

caaaaggccc tcaataaaat ggtttact 448

<210> 23

<211> 704

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 197 to 704

<400> 23

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tcatctgtgc aaaattttcg gaccttactg tttttataca tagtttcaca actgaatgtg 120

acagcataac aaactgtatt ttttccattt gtccaattaa gtctgtacta tccatatttt 180

tctatttctc ctaaaggatg aagacctaca agagatggaa aatttagccc aaagaatgga 240

aactcagttt ggccaatttt ttgatcatgt gattgtgaat gacagcttgc acgatgcatg 300

tgcccagttg ttgtctgcca tacagaaggc tcaggaggag cctcagtggg taccagcaac 360

atggatttcc tcagatactg agtctcaatg agacttcttg tttaatgctg gagttttaac 420

actgtaccct tgatacagcg atccatagtt gcaatctaaa acaacagtat ttgacccatt 480

ttaatgtgta caactttaaa agtgcagcaa tttattaatt aatcttattt gaaaaaaatt 540

tttattgtat ggttatgtgg ttacctattt taacttaatt ttttttcctt tacctcatat 600

gcagctgtgg tagaaatatg aataatgtta agtcactgag tatgagaacc tttcgcagat 660

ttcacatgat ctttttaaga tttaaataaa gagctttcct aaat 704

<210> 24

<211> 637

<212> PRT

<213> Homo sapiens

<400> 24

Met Ile Gln Ser Asp Lys Gly Ala Asp Pro Pro Asp Lys Lys Asp Met
1   5   10   15

Lys Leu Ser Thr Ala Thr Asn Pro Gln Asn Gly Leu Ser Gln Ile Leu
            20   25   30

Arg Leu Val Leu Gln Glu Leu Ser Leu Phe Tyr Ser Arg Asp Val Asn
        35   40   45

Gly Val Cys Leu Leu Tyr Asp Leu Leu His Ser Pro Trp Leu Gln Ala
    50   55   60

Leu Leu Lys Ile Tyr Asp Cys Leu Gln Glu Phe Lys Glu Lys Lys Leu
65   70   75   80

Val Pro Ala Thr Pro His Ala Gln Val Leu Ser Tyr Glu Val Val Glu
                85   90   95

Leu Leu Arg Glu Thr Pro Thr Ser Pro Glu Ile Gln Glu Leu Arg Gln
            100   105   110

Met Leu Gln Ala Pro His Phe Lys Ala Leu Leu Ser Ala His Asp Thr
        115   120   125

```
Ile Ala Gln Lys Asp Phe Glu Pro Leu Leu Pro Pro Leu Pro Asp Asn
    130                 135                 140

Ile Pro Glu Ser Glu Glu Ala Met Arg Ile Val Cys Leu Val Lys Asn
145                 150                 155                 160

Gln Gln Pro Leu Gly Ala Thr Ile Lys Arg His Glu Met Thr Gly Asp
                165                 170                 175

Ile Leu Val Ala Arg Ile Ile His Gly Gly Leu Ala Glu Arg Ser Gly
            180                 185                 190

Leu Leu Tyr Ala Gly Asp Lys Leu Val Glu Val Asn Gly Val Ser Val
        195                 200                 205

Glu Gly Leu Asp Pro Glu Gln Val Ile His Ile Leu Ala Met Ser Arg
    210                 215                 220

Gly Thr Ile Met Phe Lys Val Val Pro Val Ser Asp Pro Pro Val Asn
225                 230                 235                 240

Ser Gln Gln Met Val Tyr Val Arg Ala Met Thr Glu Tyr Trp Pro Gln
                245                 250                 255

Glu Asp Pro Asp Ile Pro Cys Met Asp Ala Gly Leu Pro Phe Gln Lys
            260                 265                 270
```

Gly Asp Ile Leu Gln Ile Val Asp Gln Asn Asp Ala Leu Trp Trp Gln

275 280 285

Ala Arg Lys Ile Ser Asp Pro Ala Thr Cys Ala Gly Leu Val Pro Ser

290 295 300

Asn His Leu Leu Lys Arg Lys Gln Arg Glu Phe Trp Trp Ser Gln Pro

305 310 315 320

Tyr Gln Pro His Thr Cys Leu Lys Ser Thr Leu Ser Ile Ser Met Glu

325 330 335

Glu Glu Asp Asp Met Lys Ile Asp Glu Lys Cys Val Glu Ala Asp Glu

340 345 350

Glu Thr Phe Glu Ser Glu Glu Leu Ser Glu Asp Lys Glu Glu Phe Val

355 360 365

Gly Tyr Gly Gln Lys Phe Phe Ile Ala Gly Phe Arg Arg Ser Met Arg

370 375 380

Leu Cys Arg Arg Lys Ser His Leu Ser Pro Leu His Ala Ser Val Cys

385 390 395 400

Cys Thr Gly Ser Cys Tyr Ser Ala Val Gly Ala Pro Tyr Glu Glu Val

405 410 415

Val Arg Tyr Gln Arg Arg Pro Ser Asp Lys Tyr Arg Leu Ile Val Leu
420 425 430

Met Gly Pro Ser Gly Val Gly Val Asn Glu Leu Arg Arg Gln Leu Ile
435 440 445

Glu Phe Asn Pro Ser His Phe Gln Ser Ala Val Pro His Thr Thr Arg
450 455 460

Thr Lys Lys Ser Tyr Glu Met Asn Gly Arg Glu Tyr His Tyr Val Ser
465 470 475 480

Lys Glu Thr Phe Glu Asn Leu Ile Tyr Ser His Arg Met Leu Glu Tyr
485 490 495

Gly Glu Tyr Lys Gly His Leu Tyr Gly Thr Ser Val Asp Ala Val Gln
500 505 510

Thr Val Leu Val Glu Gly Lys Ile Cys Val Met Asp Leu Glu Pro Gln
515 520 525

Asp Ile Gln Gly Val Arg Thr His Glu Leu Lys Pro Tyr Val Ile Phe
530 535 540

Ile Lys Pro Ser Asn Met Arg Cys Met Lys Gln Ser Arg Lys Asn Ala
545 550 555 560

Lys Val Ile Thr Asp Tyr Tyr Val Asp Met Lys Phe Lys Asp Glu Asp
565 570 575

Leu Gln Glu Met Glu Asn Leu Ala Gln Arg Met Glu Thr Gln Phe Gly
580 585 590

Gln Phe Phe Asp His Val Ile Val Asn Asp Ser Leu His Asp Ala Cys
595 600 605

Ala Gln Leu Leu Ser Ala Ile Gln Lys Ala Gln Glu Glu Pro Gln Trp
610 615 620

Val Pro Ala Thr Trp Ile Ser Ser Asp Thr Glu Ser Gln
625 630 635

<210> 25

<211> 1190

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 48, stop at 638

<400> 25

ataaacattg ggctgcacat agagacttaa ttttagattt agacaaaatg gaaattattt 60

catcaaaact attcatttta ttgactttag ccacttcaag cttgttaaca tcaaacattt 120

tttgtgcaga tgaattagtg atstccaatc ttcacagcaa agaaaattat gacaaatatt 180

ctgagcctag aggataccca aaaggggaaa gaagcctcaa ttttgaggaa ttaaaagatt 240

ggggaccaaa aaatgttatt aagatgagta cacctgcagt caataaaatg ccacactcct 300

tcgccaactt gccattgaga tttgggagga acgttcaaga agaaagaagt gctggagcaa 360

cagccaacct gcctctgaga tctggaagaa atatggaggt gagcctcgtg agacgtgttc 420

ctaacctgcc ccaaaggttt gggagaacaa caacagccaa aagtgtctgc aggatgctga 480

gtgatttgtg tcaaggatcc atgcattcac catgtgccaa tgacttattt tactccatga 540

cctgccagca ccaagaaatc cagaatcccg atcaaaaaca gtcaaggaga ctgctattca 600

agaaaataga tgatgcagaa ttgaaacaag aaaaataaga aacctggagc ctgtccctaa 660

agctgtggcc tgtaatctac aaatggctct atagcgaaga ccacacggaa gagtagctac 720

atacacttca tcagctatgg atcatcaacg gcaatttttc cttgtcagta cagctataat 780

agtatcttga aagttgtaaa aaaattaaag catatttgtt acgtaaagtt aaaatgattt 840

ttgtctgaat aaaaaaaaag cattgcaaat gctttagaaa tctctgataa tggagagaga 900

gacagaggac cctcctcact accctatata aaaatcattg gcacagttac acttaataaa 960

aaaaattaaa cagaagagca ccctgaaaaa cattatgatg gaaattaaat agtatgccag 1020

aataacatgg ttgacaaata agtgaacaag gattaaaaat cacttacaaa cgtgtttctg 1080

tacacccttt ctatcgtgtc aaatgttaat gaatctgtga tcaattgaaa tgtaaatgtc 1140

tgtgtaaaac tacaaaataa aaactcttag actttaggga gaaaagaaaa 1190

<210> 26

<211> 256

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 1 to 185

<400> 26

ataaacattg ggctgcacat agagacttaa ttttagattt agacaaaatg gaaattattt 60

catcaaaact attcatttta ttgactttag ccacttcaag cttgttaaca tcaaacattt 120

tttgtgcaga tgaattagtg atstccaatc ttcacagcaa agaaaattat gacaaatatt 180

ctgaggtaag ttttttaaat ctctctaatg tgagtagcat taattacata atattaatcc 240

taagtctaat gatttt 256

<210> 27

<211> 512

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 62 to 462

<400> 27

gggtttaaat ctgttgctta taacaacagt atgttattgt aatggtcatt tctaattata 60

gcctagagga tacccaaaag gggaaagaag cctcaatttt gaggaattaa aagattgggg 120

accaaaaaat gttattaaga tgagtacacc tgcagtcaat aaaatgccac actccttcgc 180

caacttgcca ttgagatttg ggaggaacgt tcaagaagaa agaagtgctg gagcaacagc 240

caacctgcct ctgagatctg gaagaaatat ggaggtgagc ctcgtgagac gtgttcctaa 300

cctgccccaa aggtttggga gaacaacaac agccaaaagt gtctgcagga tgctgagtga 360

tttgtgtcaa ggatccatgc attcaccatg tgccaatgac ttattttact ccatgacctg 420

ccagcaccaa gaaatccaga atcccgatca aaaacagtca aggtaaatac ctggaaacca 480

gtcaaagtgc atgggcagtt atatagaggt gg 512

<210> 28

<211> 768

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 115 to 718

<400> 28

acacaattca actcaagtat aattaggcag ttaggactat ggcttgtatt tgtatacaca 60

cttgcatgct gttgttctga tgggtgacaa cattttatac tgcttacatt ttaggagact 120

gctattcaag aaaatagatg atgcagaatt gaaacaagaa aaataagaaa cctggagcct 180

gtccctaaag ctgtggcctg taatctacaa atggctctat agcgaagacc acacggaaga 240

gtagctacat acacttcatc agctatggat catcaacggc aatttttcct tgtcagtaca 300

gctataatag tatcttgaaa gttgtaaaaa aattaaagca tatttgttac gtaaagttaa 360

aatgattttt gtctgaataa aaaaaaagca ttgcaaatgc tttagaaatc tctgataatg 420

gagagagaga cagaggaccc tcctcactac cctatataaa aatcattggc acagttacac 480

ttaataaaaa aaattaaaca gaagagcacc ctgaaaaaca ttatgatgga aattaaatag 540

tatgccagaa taacatggtt gacaaataag tgaacaagga ttaaaaatca cttacaaacg 600

tgtttctgta cacccttttct atcgtgtcaa atgttaatga atctgtgatc aattgaaatg 660

taaatgtctg tgtaaaacta caaaataaaa actcttagac tttagggaga aaagaaaaag 720

gcaactatga gttacctctt ttagtgtctc ctctatctac atccagaa 768

<210> 29

<211> 196

<212> PRT

<213> Homo sapiens

<400> 29

Met Glu Ile Ile Ser Ser Lys Leu Phe Ile Leu Leu Thr Leu Ala Thr
1 5 10 15

Ser Ser Leu Leu Thr Ser Asn Ile Phe Cys Ala Asp Glu Leu Val Ile
20 25 30

Ser Asn Leu His Ser Lys Glu Asn Tyr Asp Lys Tyr Ser Glu Pro Arg
35 40 45

Gly Tyr Pro Lys Gly Glu Arg Ser Leu Asn Phe Glu Glu Leu Lys Asp
50 55 60

Trp Gly Pro Lys Asn Val Ile Lys Met Ser Thr Pro Ala Val Asn Lys
65 70 75 80

Met Pro His Ser Phe Ala Asn Leu Pro Leu Arg Phe Gly Arg Asn Val
85 90 95

Gln Glu Glu Arg Ser Ala Gly Ala Thr Ala Asn Leu Pro Leu Arg Ser
100 105 110

Gly Arg Asn Met Glu Val Ser Leu Val Arg Arg Val Pro Asn Leu Pro
115 120 125

Gln Arg Phe Gly Arg Thr Thr Thr Ala Lys Ser Val Cys Arg Met Leu
130 135 140

Ser Asp Leu Cys Gln Gly Ser Met His Ser Pro Cys Ala Asn Asp Leu
145 150 155 160

Phe Tyr Ser Met Thr Cys Gln His Gln Glu Ile Gln Asn Pro Asp Gln
165 170 175

Lys Gln Ser Arg Arg Leu Leu Phe Lys Lys Ile Asp Asp Ala Glu Leu
180 185 190

Lys Gln Glu Lys
195

<210> 30

<211> 1188

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 347, stop at 604

<400> 30

acacacaacg gggtttcggg gctgtggacc ctgtgccagg aaaggaaggg cgcagctcct 60

gcaatgcgga gcagccaggg cagtgggcac caggctttag cctccctttc tcaccctaca 120

gagggcaggc ccttcagctc cattctcctc caaggctgca gagggggcag gaattggggg 180

tgacaggaga gctgtaaggt ctccagtggg tcattctggg cccagagatg ggtgctgaag 240

ctcccacgcc tgcctgtgaa aatggagtcc tctctcacct gggagagcca ggtgctgccc 300

cgagaaggat gcatttatgg cttcrtgaag tctttcctga cccccgatgc tgctgactat 360

agagacaaag tctcactatg ttgctcaggc tggtcttgaa ctcctggcct caagcgatcc 420

tcccacctya gcctcccaaa gwgttgggat tatagacatg agccactgca cctggccgac 480

cttgggcaag ttcttaaacc cttcaaagcc tcatttttct ccaatcayaa aagggaaaga 540

tggtaatatt ttccccwcca aattcttgtc ggatgccctc acagaattga gattatgtac 600

gtaaaacacc aggtgcctaa cccggcacag agcaggaggg ctaagcgtga catccagcac 660

gtggtcagtg gaatccagta ttcctaccca cctctctagt ctcccctcca cccctctccc 720

tttcagaggc accaagctgc ttgtggtctt gtctattccc actccctgcc tgactgaaca 780

ttttctccac ctcctgatca tcagcagcag aaactggctg ctcttcctcc tgggtagaca 840

gccagactgt atttcccagc tgcccctgca gtgagatgtg gccatcggag ccagcattgg 900

ccaatggact ctgcatggga gtgacgcatg cwgcctccag gcttgtccct aaaacctccc 960

acgtgtcctc sgcctgctct tcccacytcc aaggagcacg gcaattgtgg aagacccaga 1020

ttagtgatgg cagaaccata gatgggagga acctgggtcc ctgacttaaa gtatcatgga 1080

tttggatgtt cccttagtga gaaataaact tccattgtgt ttaagccttt atttgtttat 1140

agttggttac agcaactgcc ttctttttaat taaaacactc ctgctgct 1188

<210> 31

<211> 85

<212> PRT

<213> Homo sapiens

<400> 31

Met Leu Leu Thr Ile Glu Thr Lys Ser His Tyr Val Ala Gln Ala Gly
1 5 10 15

Leu Glu Leu Leu Ala Ser Ser Asp Pro Pro Thr Ser Ala Ser Gln Ser
20 25 30

Val Gly Ile Ile Asp Met Ser His Cys Thr Trp Pro Thr Leu Gly Lys
35 40 45

Phe Leu Asn Pro Ser Lys Pro His Phe Ser Pro Ile Thr Lys Gly Lys
50 55 60

Asp Gly Asn Ile Phe Pro Thr Lys Phe Leu Ser Asp Ala Leu Thr Glu
65 70 75 80

Leu Arg Leu Cys Thr
85

<210> 32

<211> 560

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 101 to 460

<400> 32

tatatgggaa tgagccagct gcaccgctgc tgacagtggc tgggataatc ctccctgagc 60

tgttccaagg attagtcctg ctgccctgtg cccagctccc acacaacggg gtttcggggc 120

tgtggaccct gtgccaggaa aggaagggcg cagctcctgc aatgcggagc agccagggca 180

gtgggcacca ggctttagcc tccctttctc accctacaga gggcaggccc ttcagctcca 240

ttctcctcca aggctgcaga gggggcagga attgggggtg acaggagagc tgtaaggtct 300

ccagtgggtc attctgggcc cagagatggg tgctgaagct cccacgcctg cctgtgaaaa 360

tggagtcctc tctcacctgg gagagccagg tgctgccccg agaaggatgc atttatggct 420

tcatgaagtc tttcctgacc cccgatgctg ctgactatag gtaagtctga gcaaatctgg 480

gggagcctca tcttggcatg agaaagagat ggcttcttct aagcccactg gccgtgatcc 540

caggattata acacattctg 560

<210> 33

<211> 405

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 101 to 305

<400> 33

catgagaggt agtataatat agaggatatg tgtgcttact aagaggctgc ctgtctgacc 60

ttggacaagt tctttttatt tatttattta ttttttatag agacaaagtc tcactatgtt 120

gctcaggctg gtcttgaact cctggcctca agcgatcctc ccaccttagc ctcccaaaga 180

gttgggatta tagacatgag ccactgcacc tggccgacct tgggcaagtt cttaaaccct 240

tcaaagcctc atttttctcc aatcataaaa gggaaagatg gtaatatttt cccctccaaa 300

ttcttgtaag tattaaacat tgtatatgta ttttgaacac gattaagctc taaacacttg 360

ttaggaagca ggagtagcat ttgaaacaaa cagctctttt cccac 405

<210> 34

<211> 821

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 101 to 721

<400> 34

aagtattaaa cattgtatat gtattttgaa cacgattaag ctctaaacac ttgttaggaa 60

gcaggagtag catttgaaac aaacagctct tttcccacag gtcggatgcc ctcacagaat 120

tgagattatg tacgtaaaac accaggtgcc taacccggca cagagcagga gggctaagcg 180

tgacatccag cacgtggtca gtggaatcca gtattcctac ccacctctct agtctccccc 240

ccacccctct ccctttcaga ggcaccaagc tgcttgtggt cttgtctatt cccactcccc 300

gcctgactga acattttctc cacctcctga tcatcagcag cagaaactgg ctgctcttcc 360

tcctgggtag acagccagac tgtatttccc agctgcccct gcagtgagat gtggccatcg 420

gagccagcat tggccaatgg actctgcatg ggagtgacgc atgctgcctc caggcttgtc 480

cctaaaacct cccacgtgtc ctccgcctgc tcttcccact tccaaggagc acggcaattg 540

tggaagaccc agattagtga tggcagaacc atagatggga ggaacctggg tccctgactt 600

aaagtatcat ggatttggat gttcccttag tgagaaataa acttccattg tgtttaagcc 660

tttatttgtt tatagttggt tacagcaact gccttctttt aattaaaaca ctcctgctgc 720

ttcatgttgc tggaatgctt gtaaccctgc cctgcttcac cagggtaact cctacttggc 780

ctttaagttt atctctgctg tcacaccgtc cagaaagcct t 821

<210> 35

<211> 1514

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 155, stop at 1192

<400> 35

gaaagtccag ccatctgtta cctgcgttgc ttcctggggr gggatagtcc acctggaggc 60

attcggagac ccagtgattg tgctccgygg agcctgggct gtgccccgcg ttgactgcct 120

catagatacc ctacgaaccc caaatgccag ctgcatgaga aaagggactc accttctggt 180

tccctgcctg gaagaggaag agctggcatt gcacaggaga cggctggaca tgtctgaggc 240

actgccctgc ccgggcaagg agacccccac cccaggctgc aggctggggg ccctgtattg 300

ggcctgtgtc cacaatgatc ccacccagct ccaagccata ctggatggtg gggtctcccc 360

agaggaggcc acccaggtgg acagcaatgg gaggacaggc ctcatggtcg catgctacca 420

cggcttccag agtgttgtgg ccctgctcag ccactgtcct ttccttgatg tgaaccagca 480

ggacaaagga ggggacacgg ccctcatgtt ggctgcccaa gcaggccacg tgcctctagt 540

gagtctcctg ctcaactact atgtgggcct ggacctggaa cgccgggacc agcgggggct 600

cacggcgtta atgaaggctg ccatgcggaa ccgctgtgct gacctgacag cagtggaccc 660

tgttcggggc aagacggccc tggaatgggc agtgctgacc gacagcttcg acaccgtgtg 720

gaggattcgg cagctgctga ggcggcccca agtggagcag cttagccagc actacaagcc 780

cgagtggccg gccttgtccg ggctcgtggc ccaggcccag gcccaggccc aggttgcccc 840

ttcactccta gaacggctgc aggctacctt gagcctcccc tttgccccgt ctcctcagga 900

gggggggtgtt ctggaccacc ttgtgactgc cacaaccagc ctggccagtc ccttcgtcac 960

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cgtgccagag ctgttagtgc cagccgaagc ccagtccttc aggacaccaa agtctggccc 1080

ttcctctctg gcgataccag gagctcagga tagagaagag gaaacaggag gaggaggcca 1140

gaatggcaca gaagtagggg aagatgggat aggacaggct gggaacaggt aatcaggccc 1200

ctcccagggc ttctttcccc tctggagtgc ctccggcctc cccatccacc tctgcctaag 1260

taaatctgct ctcaacctat atatatacaa ggtcattcat tctagcattg tttgcaagag 1320

tgaaagagtg gaaacacccg aagtgtccat cagtaaggga caggctagat tgattacgga 1380

tgtaattgct gtccatccat acagagcata ctctacagtg tattctaaaa taagactaag 1440

gaagctgttt atattctgat atgaaactac catcaagatg tataaagtaa aaataactaa 1500

ggagtggaac agtg 1514

<210> 36

<211> 1544

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> artificial sequence, Translation start at 155, stop at 1222

<400> 36

gaaagtccag ccatctgtta cctgcgttgc ttcctggggr gggatagtcc acctggaggc 60

attcggagac ccagtgattg tgctccgygg agcctgggct gtgccccgcg ttgactgcct 120

catagatacc ctacgaaccc caaatgccag ctgcatgaga aaagggactc accttctggt 180

tccctgcctg gaagaggaag agctggcatt gcacaggaga cggctggaca tgtctgaggc 240

actgccctgc ccgggcaagg agacccccac cccaggctgc aggctggggg ccctgtattg 300

ggcctgtgtc cacaatgatc ccacccagct ccaagccata ctggatggtg gggtctcccc 360

agaggaggcc acccaggtgg acagcaatgg gaggacaggc ctcatggtcg catgctacca 420

cggcttccag agtgttgtgg ccctgctcag ccactgtcct ttccttgatg tgaaccagca 480

ggacaaagga ggggacacgg ccctcatgtt ggctgcccaa gcaggccacg tgcctctagt 540

gagtctcctg ctcaactact atgtgggcct ggacctggaa cgccgggacc agcgggggct 600

cacggcgtta atgaaggctg ccatgcggaa ccgctgtgag tgcgtggcca ccctcctcat 660

ggcaggtgct gacctgacag cagtggaccc tgttcggggc aagacggccc tggaatgggc 720

agtgctgacc gacagcttcg acaccgtgtg gaggattcgg cagctgctga ggcggcccca 780

agtggagcag cttagccagc actacaagcc cgagtggccg gccttgtccg ggctcgtggc 840

ccaggcccag gcccaggccc aggttgcccc ttcactccta gaacggctgc aggctacctt 900

gagcctcccc tttgccccgt ctcctcagga ggggggtgtt ctggaccacc ttgtgactgc 960

cacaaccagc ctggccagtc ccttcgtcac cactgcctgc cacactctgt gccctgacca 1020

tccaccttcg ctgggcaccc gaagcaagtc cgtgccagag ctgttagtgc cagccgaagc 1080

ccagtccttc aggacaccaa agtctggccc ttcctctctg gcgataccag gagctcagga 1140

tagagaagag gaaacaggag gaggaggcca gaatggcaca gaagtagggg aagatgggat 1200

aggacaggct gggaacaggt aatcaggccc ctcccagggc ttctttcccc tctggagtgc 1260

ctccggcctc cccatccacc tctgcctaag taaatctgct ctcaacctat atatatacaa 1320

ggtcattcat tctagcattg tttgcaagag tgaaagagtg gaaacacccg aagtgtccat 1380

cagtaaggga caggctagat tgattacgga tgtaattgct gtccatccat acagagcata 1440

ctctacagtg tattctaaaa taagactaag gaagctgttt atattctgat atgaaactac 1500

catcaagatg tataaagtaa aaataactaa ggagtggaac agtg 1544

<210> 37

<211> 345

<212> PRT

<213> Homo sapiens

<400> 37

Met Arg Lys Gly Thr His Leu Leu Val Pro Cys Leu Glu Glu Glu Glu
1 5 10 15

Leu Ala Leu His Arg Arg Arg Leu Asp Met Ser Glu Ala Leu Pro Cys
20 25 30

Pro Gly Lys Glu Thr Pro Thr Pro Gly Cys Arg Leu Gly Ala Leu Tyr
35 40 45

Trp Ala Cys Val His Asn Asp Pro Thr Gln Leu Gln Ala Ile Leu Asp
50 55 60

```
Gly Gly Val Ser Pro Glu Glu Ala Thr Gln Val Asp Ser Asn Gly Arg
65                  70                  75                  80

Thr Gly Leu Met Val Ala Cys Tyr His Gly Phe Gln Ser Val Val Ala
                85                  90                  95

Leu Leu Ser His Cys Pro Phe Leu Asp Val Asn Gln Gln Asp Lys Gly
            100                 105                 110

Gly Asp Thr Ala Leu Met Leu Ala Ala Gln Ala Gly His Val Pro Leu
        115                 120                 125

Val Ser Leu Leu Leu Asn Tyr Tyr Val Gly Leu Asp Leu Glu Arg Arg
    130                 135                 140

Asp Gln Arg Gly Leu Thr Ala Leu Met Lys Ala Ala Met Arg Asn Arg
145                 150                 155                 160

Cys Ala Asp Leu Thr Ala Val Asp Pro Val Arg Gly Lys Thr Ala Leu
                165                 170                 175

Glu Trp Ala Val Leu Thr Asp Ser Phe Asp Thr Val Trp Arg Ile Arg
            180                 185                 190

Gln Leu Leu Arg Arg Pro Gln Val Glu Gln Leu Ser Gln His Tyr Lys
        195                 200                 205
```

Pro Glu Trp Pro Ala Leu Ser Gly Leu Val Ala Gln Ala Gln Ala Gln
210 215 220

Ala Gln Val Ala Pro Ser Leu Leu Glu Arg Leu Gln Ala Thr Leu Ser
225 230 235 240

Leu Pro Phe Ala Pro Ser Pro Gln Glu Gly Gly Val Leu Asp His Leu
245 250 255

Val Thr Ala Thr Thr Ser Leu Ala Ser Pro Phe Val Thr Thr Ala Cys
260 265 270

His Thr Leu Cys Pro Asp His Pro Pro Ser Leu Gly Thr Arg Ser Lys
275 280 285

Ser Val Pro Glu Leu Leu Val Pro Ala Glu Ala Gln Ser Phe Arg Thr
290 295 300

Pro Lys Ser Gly Pro Ser Ser Leu Ala Ile Pro Gly Ala Gln Asp Arg
305 310 315 320

Glu Glu Glu Thr Gly Gly Gly Gly Gln Asn Gly Thr Glu Val Gly Glu
325 330 335

Asp Gly Ile Gly Gln Ala Gly Asn Arg
340 345

<210> 38

<211> 355

<212> PRT

<213> Homo sapiens

<400> 38

Met Arg Lys Gly Thr His Leu Leu Val Pro Cys Leu Glu Glu Glu Glu
1 5 10 15

Leu Ala Leu His Arg Arg Arg Leu Asp Met Ser Glu Ala Leu Pro Cys
20 25 30

Pro Gly Lys Glu Thr Pro Thr Pro Gly Cys Arg Leu Gly Ala Leu Tyr
35 40 45

Trp Ala Cys Val His Asn Asp Pro Thr Gln Leu Gln Ala Ile Leu Asp
50 55 60

Gly Gly Val Ser Pro Glu Glu Ala Thr Gln Val Asp Ser Asn Gly Arg
65 70 75 80

Thr Gly Leu Met Val Ala Cys Tyr His Gly Phe Gln Ser Val Val Ala
85 90 95

Leu Leu Ser His Cys Pro Phe Leu Asp Val Asn Gln Gln Asp Lys Gly

100 105 110

Gly Asp Thr Ala Leu Met Leu Ala Ala Gln Ala Gly His Val Pro Leu
115 120 125

Val Ser Leu Leu Leu Asn Tyr Tyr Val Gly Leu Asp Leu Glu Arg Arg
130 135 140

Asp Gln Arg Gly Leu Thr Ala Leu Met Lys Ala Ala Met Arg Asn Arg
145 150 155 160

Cys Glu Cys Val Ala Thr Leu Leu Met Ala Gly Ala Asp Leu Thr Ala
165 170 175

Val Asp Pro Val Arg Gly Lys Thr Ala Leu Glu Trp Ala Val Leu Thr
180 185 190

Asp Ser Phe Asp Thr Val Trp Arg Ile Arg Gln Leu Leu Arg Arg Pro
195 200 205

Gln Val Glu Gln Leu Ser Gln His Tyr Lys Pro Glu Trp Pro Ala Leu
210 215 220

Ser Gly Leu Val Ala Gln Ala Gln Ala Gln Ala Gln Val Ala Pro Ser
225 230 235 240

Leu Leu Glu Arg Leu Gln Ala Thr Leu Ser Leu Pro Phe Ala Pro Ser

245 250 255

Pro Gln Glu Gly Gly Val Leu Asp His Leu Val Thr Ala Thr Thr Ser
260 265 270

Leu Ala Ser Pro Phe Val Thr Thr Ala Cys His Thr Leu Cys Pro Asp
275 280 285

His Pro Pro Ser Leu Gly Thr Arg Ser Lys Ser Val Pro Glu Leu Leu
290 295 300

Val Pro Ala Glu Ala Gln Ser Phe Arg Thr Pro Lys Ser Gly Pro Ser
305 310 315 320

Ser Leu Ala Ile Pro Gly Ala Gln Asp Arg Glu Glu Glu Thr Gly Gly
325 330 335

Gly Gly Gln Asn Gly Thr Glu Val Gly Glu Asp Gly Ile Gly Gln Ala
340 345 350

Gly Asn Arg
355

<210> 39

<211> 183

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 1 to 143

<400> 39

gaaagtccag ccatctgtta cctgcgttgc ttcctggggr gggatagtcc acctggaggc 60

attcggagac ccagtgattg tgctccgygg agcctgggct gtgccccgcg ttgactgcct 120

catagatacc ctacgaaccc caagtaagaa aaaacgacga ccctctctcc gtgagtctca 180

ctg 183

<210> 40

<211> 462

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 108 to 358

<400> 40

gggataaatg ttttccctgg ggcaagggct gtgcacttcg cagctgctgg gtcccctccc 60

taggatccag ggagacactc actactcctc tccattctgt gttttagatg ccagctgcat 120

gagaaaaggg actcaccttc tggttccctg cctggaagag gaagagctgg cattgcacag 180

gagacggctg gacatgtctg aggcactgcc ctgcccgggc aaggagaccc ccaccccagg 240

ctgcaggctg ggggccctgt attgggcctg tgtccacaat gatcccaccc agctccaagc 300

catactggat ggtggggtct ccccagagga ggccacccag gtggacagca atgggagggt 360

gagatgtcct ggcttcccag aacagctggg ggcatctttg catccccacc acaccgtcct 420

ggcctggctc cctgagaggg gttcaggggc aatacctcct gc 462

<210> 41

<211> 308

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 89 to 218

<400> 41

ctctgggaca gatatgggtt tagagggtgc aaggggccct ggagtggccc agggggaaag 60

caggggatct gagctgcccc tccctcagac aggcctcatg gtcgcatgct accacggctt 120

ccagagtgtt gtggccctgc tcagccactg tcctttcctt gatgtgaacc agcaggacaa 180

aggaggggac acggccctca tgttggctgc ccaagcaggt gtgaggctgc tgcaccccac 240

ttccgacagc ccccttttga tgcagacagg gcctcagccc cacccttgtt gcacggtgtt 300

ctacacca 308

<210> 42

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 49 to 159

<400> 42

tcatcacccc ctttcctggg gaccaagctt acccttgctg ccctgcaggc cacgtgcctc 60

tagtgagtct cctgctcaac tactatgtgg gcctggacct ggaacgccgg gaccagcggg 120

ggctcacggc gttaatgaag gctgccatgc ggaaccgctg tgagtgcgtg gccaccctcc 180

tcatggcagg tgtgcggggc ctggaccggg gtgtgtggcc tccagtccct c 231

<210> 43

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 49 to 189

<400> 43

tcatcacccc ctttcctggg gaccaagctt acccttgctg ccctgcaggc cacgtgcctc 60

tagtgagtct cctgctcaac tactatgtgg gcctggacct ggaacgccgg gaccagcggg 120

ggctcacggc gttaatgaag gctgccatgc ggaaccgctg tgagtgcgtg gccaccctcc 180

tcatggcagg tgtgcggggc ctggaccggg gtgtgtggcc tccagtccct c 231

<210> 44

<211> 588

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 98 to 499

<400> 44

aatgtaaccc acatcagtct tgctcctaaa gaatctgccc ttccacaaat caccaacccc 60

tatcccgccc catgtcaccc cctgtgctcc ttcccaggtg ctgacctgac agcagtggac 120

cctgttcggg gcaagacggc cctggaatgg gcagtgctga ccgacagctt cgacaccgtg 180

tggaggattc ggcagctgct gaggcggccc caagtggagc agcttagcca gcactacaag 240

cccgagtggc cggccttgtc cgggctcgtg gcccaggccc aggcccaggc ccaggttgcc 300

ccttcactcc tagaacggct gcaggctacc ttgagcctcc cctttgcccc gtctcctcag 360

gagggggtg ttctggacca ccttgtgact gccacaacca gcctggccag tcccttcgtc 420

accactgcct gccacactct gtgccctgac catccacctt cgctgggcac ccgaagcaag 480

tccgtgccag agctgttagg tactgccccg ccccctcccc tggttcccca gtccccgcca 540

gggagtcccc agaggtcccc gtgggtcttc gtcccctacc agagccct 588

<210> 45

<211> 503

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> genomic DNA, Exon from 27 to 503

<400> 45

ccaaggcatc ctcatcctcc caccagtgcc agccgaagcc cagtccttca ggacaccaaa 60

gtctggccct tcctctctgg cgataccagg agctcaggat agagaagagg aaacaggagg 120

aggaggccag aatggcacag aagtagggga agatgggata ggacaggctg ggaacaggta 180

atcaggcccc tcccagggct tctttccccct ctggagtgcc tccggcctcc ccatccacct 240

ctgcctaagt aaatctgctc tcaacctata tatatacaag gtcattcatt ctagcattgt 300

ttgcaagagt gaaagagtgg aaacacccga agtgtccatc agtaagggac aggctagatt 360

gattacggat gtaattgctg tccatccata cagagcatac tctacagtgt attctaaaat 420

aagactaagg aagctgttta tattctgata tgaaactacc atcaagatgt ataaagtaaa 480

aataactaag gagtggaaca gtg 503

25

49